

TWO NEW SPECIES OF THE GENUS DOLICHOGENIDEA VIERECK (HYMENOPTERA, BRACONIDAE, MICROGASTRINAE) FROM CHINA

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Abstract Two species, from China *Dolichogenidea acutituba* sp. nov. and *Dolichogenidea angularis* sp. nov. (Hymenoptera, Braconidae, Microgastrinae) are described. All specimens are deposited in the Beneficial Insects Lab., College of Plant Protection, Fujian Agriculture & Forestry University.

Key words Braconidae, Microgastrinae, *Dolichogenidea*, new species, China.

Dolichogenidea Viereck is a large genus of microgastrinae (Hymenoptera, Braconidae). The genus was treated in detail by Mason (1981) to include Nixon's three species groups of *Apanteles* s. l., two of which are known from China: *A. ultor* group, with a complete or incomplete propodeal areola, and *A. laevigata* group, with an areola absent or only showing a dent and generally body smoother. *A. laevigata* group of the genus with weak scutum punctures, is sometimes similar to *A. metacarpalis* group of *Apanteles* s. str., but differs from the latter by the following characters: 1) scutum punctures typically separated and never with posterior aciculated sculpture; 2) margin of vannal lobe being convex and having a distinct hair fringe; 3) T1 parallel or slightly widened towards apex; 4) propodeum with hind-lateral area wider than high.

Dolichogenidea Viereck, 1911

Dolichogenidea Viereck, 1911. Proc. U. S. natn. Mus. 40: 173. (as subg. of *Apanteles* s. l.). Type species: *Apanteles (Dolichogenidea) banksi* Viereck (Monobasic & orig. design)

Dolichogenidea Viereck: Mason, 1981. Mem. Ent. Soc. Can., 115: 34; Papp, 1988. Annls Hist. Nat. Mus. Hung., 80: 146; Austin and Dangerfield, 1992. Invert. Taxon. 6: 27.

Hypopygium usually bearing a series of median longitudinal striae and sharply folded medially; ovipositor sheath usually long, hairy throughout. T1 much longer than wide, usually parallel-sided or barrel-shaped, almost always bearing a median apical longitudinal depression; T2 always wider than long and usually a little or much shorter than T3. Propodeum coarsely sculptured to smooth and never with a median longitudinal carina; often with a more or less well-defined areola and costula. Mesonotum typically shiny with coarse, distinctly separated

punctures. Margin of vannal lobe uniformly convex and hairy, rarely margin slightly flattened.

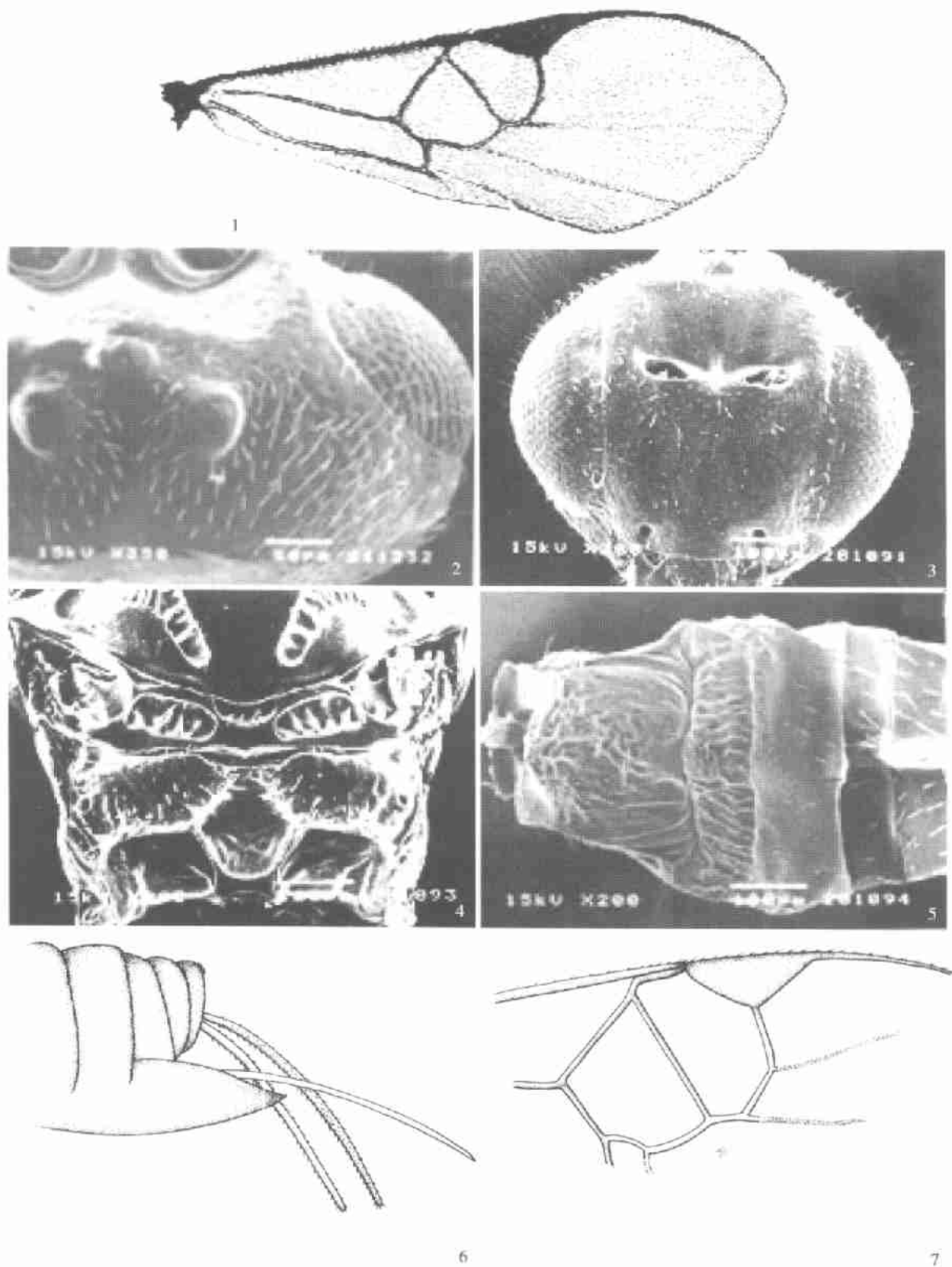
The genus is distributed worldwide. Most species are solitary and attack Microlepidoptera but are occasionally gregarious or live in Macrolepidoptera, or both. The genus probably includes 1000 species worldwide (Mason, 1981) and there are 42 known species in China, including two new species reported here.

Specimens for SEM study were cleaned by washing them in a concentrated pure soap solution (25%), dried in an alcohol series (50%, 60%, 70%, 80%, 85%, 90%, 95%, 100%), sputter coated with gold, and examined under JSM-5310LV scanning electron microscope.

For terminology used in this paper, see van Achterberg (1988, 1993) and Nixon (1965). The abbreviation "T", "F12-15", "OD" and "OOL" is used to refer to metasomal tergites, the 12-15th segments of flagellum, diameter of posterior ocellus and ocular-ocellar line, respectively.

Dolichogenidea acutituba sp. nov. (Figs 1-5)

Holotype ♀, Ninghua (26.2° N, 116.6° E), Fujian, 24 July 1990, HONG Sheng Xiang. Paratypes: 2 ♀♀, Ninghua, Fujian, 24 July 1990, HONG Sheng Xiang; 2 ♀♀, Ninghua, Fujian, 23 July 1990, WANG Cherr Hui; 1 ♀, Ninghua, Fujian, 24 July 1990, HUANG Ri Xin; 1 ♀, Ninghua, Fujian, 20 July 1990, WANG Cherr Hui; 2 ♀♀, Ninghua, Fujian, 20 July 1990, HONG Sheng Xiang; 3 ♀♀, Sangang, Mt. Wuyi, 18 Aug. 1988, ZHANG Xiao Bin; 1 ♀, Mt. Sangang, Wuyi, 11 Aug. 1988, GE Jia Hua; 1 ♀, Chongan, Fujian, 27



Figs 1-7. *Dolichogenidea acutituba* sp. nov., ♀, holotype. 1. Partial forewing. 2. Head, dorsal aspect. 3. Head, frontal aspect. 4. Propodeum. 5. T1-T3 (basal tergites). 6. Ovipositor. 7. Forewing.

July 1988, CHEN Jian Wen; 1 ♀, Qingliu, Fujian,
18 July 1990, HUANG Ri Xin; 2 ♀ ♀, Shaxian,

Fujian, 26 Oct. 1980, LIU Yi Hua; 1 ♂, Ninghua,
Fujian, 24 July 1990, HUANG Ri Xin.

Holotype. Female, length of body 1.8 mm, of forewings 2.4 mm.

Head. Clearly transverse in dorsal view, with width of head: length = 4.1: 2.3. Ocelli in a high triangular, with imaginary tangent of posterior margin of median ocellus just located in front of lateral ocelli. OOL: OD = 7.5: 4.3. There is a wide, shallow furrow passing middle of lateral ocelli from behind median ocellus. Temple and vertex finely punctured. Inner margin of eyes slightly narrowed towards clypeus. Face weakly punctured with width: height = 1.1: 1.0. Antennae longer than body (10.0: 7.3) with flagellomeres gradually thin from base to apex, F12-15 2.6-1.8 × as long as wide, loosely jointed.

Mesosoma. Approximately equalling to the width of head (4.3: 4.1), and its length: width: thickness = 6.5: 4.3: 4.2. Mesoscutum heavily punctured with the space between punctures less than puncture itself. Scutellar sulcus narrow and shallow with some cristulae in it, scutellum weakly and sparsely punctured with its lateral area small. Propodeum smooth and shiny with a complete areola opening in base, costulae and forked carinae distinct, and the hind-lateral area nearly rectangle.

Wings. 1-R1 being close to apex of marginal cell and 1.4 × as long as the length of pterostigma; pterostigma 3.2 × as long as wide; r emerging from a little outside of pterostigma and slightly shorter than 2-SR (1.3: 1.4), r meeting 2-SR by weak angle; 1-SR shorter than 2-M, first discal cell with width: height = 3.1: 2.9, 1-CU1 shorter than 2-CU1. Hind wing with margin of vannal lobe uniformly convex and hairy; 2a: M: 2r: m = 1.7: 0.8.

Legs. Hind coxa reaching apex of T2 with sparsely weak punctures; hind femur with length: width = 4.0: 1.5; hind tibia with sparse spine along outside, its inside and outside spurs reaching 2/5 and 1/3 of the basitarsus respectively.

Metasoma. Slightly shorter than mesosoma (5.5: 6.5). T1 gradually widened from base to apex, its length: apical width = 1.6: 1.0, depressed and smooth in base, hunched in basal 1/3, rugose from hunch to apex with longitudinal sculptures near apex; T2 transversely rectangular, 3.85 × as wide as long, its basal width equalling to the apical width of T1, rugose same as T1; T3 slightly longer than T2 (6.5: 5.0), this tergite as well as the following tergites smooth and shiny. Ovipositor tube short with its tip thin abruptly; ovipositor sheath thin, slightly shorter than the hind femur and covered with hairs.

Color. Black. Scape deep brown, flagellum pale brown. Wings colorless and hyaline; 1-R1, pterostigma and r brown and hyaline; C+ SC+ R gradually pale towards base; rest colorless. Legs (except for front and middle coxae red-brown, the hind coxa black-brown, the tip of hind tibia and basal tarsus dark) and lateral membrane of T1-3 yellow. Ovipositor sheath dark brown, ovipositor tube reddish brown. Apex of metasoma pale coffee.

Variation. Apex of propodeum rugulose; flagellomeres brown; length of body 1.7-2.1 mm.

Male. T1 slightly narrowed in apex; T1 smooth and shiny in apical 1/3; hind trochanter, femur and tibia in apical 2/3 brown; antenna: body = 10.0: 6.9 with F12-F15 3.3-2.7 × as long as wide. Rest same as female.

Biology. Host unknown. Cocoon white, long columniform (3.2 mm × 1.3 mm), multi-cocoon mass.

Etymology. The specific name comes from Latin words, *acuti-* (acute) and *tuba* (tube), referring to ovipositor tube thin abruptly in apex.

Remarks. This new species is similar to *Dolichogenidea asotae* Watanabe, but can be distinguished from the latter by the following characters.

<i>Dolichogenidea acutituba</i> sp. nov.	<i>Dolichogenidea asotae</i> Watanabe
R slightly shorter than 2-SR	R longer than 2-SR
Ovipositor sheath longer than hind basitarsus	Ovipositor sheath equalling to hind basitarsus
Pterostigma hyaline	Pterostigma adaphanous
Antenna longer than body	Antenna equalling to body

Dolichogenidea angularis sp. nov. (Figs. 6-8)

Holotype ♀, Shanghang (25° N, 116.4° E), Fijian, 29 Sep. 1988, GUANG Bao Bin. Paratype: 4 ♀♀, Daanyuan, Mt. Wuyi, 27 Aug. 1993, YANG Jian Quan; 1 ♀, Daanyuan, Mt. Wuyi, 14 Sep. 1988, SHEN Tian Shun; 1 ♀, Daanyuan, Mt. Wuyi, 9 Aug. 1988, LIN Zhi Hui; 2 ♀♀, Daanyuan, Mt. Wuyi, 1 Sep. 1988, GE Jian Hua; 2 ♀♀, Daanyuan, Mt. Wuyi, 8 Aug. 1998, SHI Quan Xiu; 3 ♀♀, Sangang, Mt. Wuyi, 18 Aug. 1988, SHEN Tian Shun; 1 ♀, Sangang, Mt. Wuyi, 21 July 1988, GE Jian Hua; 1 ♀, Sangang, Mt. Wuyi, 16 Sep. 1992, YANG Jian Quan; 1 ♀, Sangang, Mt. Wuyi, 18 Sep. 1992, ZOU Ming Quan; 1 ♀, Chongan, Fujian, 22 Aug. 1988, CHEN Jian Wen; 3 ♀♀, Mt. Buyun, Meihua, 26 Sep. 1988, SHEN Tian Shun; 2 ♀♀, Mt. Buyun, Meihua, 29 Sep. 1988, GUAN Bao Bin; 2 ♀♀,

Qingliu, Fujian, 19 July 1990, HONG Sheng Xiang, WANG Chen Hui; 1 ♀, Qingliu, Fujian, 18 July 1990, HONG Sheng Xiang; 2 ♀♀, Ninghua, Fujian, 22 July 1990, HUANG Ri Xin; 1 ♀, Longdu, Mt. Wuyi, 6 Aug. 1988, ZHANG Xiao Bin; 1 ♀, Qingliu, Fujian, 15 July 1990, WANG Chen Hui; 1 ♀, Guadun, Mt. Wuyi, 20 Sep. 1992, ZOU Ming Quan; 2 ♂♂, Daanyuan, Mt. Wuyi, 9 Aug. 1998, LIN Zhi Hui; 3 ♂♂, Daanyuan, Mt. Wuyi, 8 Aug. 1998, SHI Quan Xiu; 2 ♂♂, Daanyuan, 9 Sep. 1993, YANG Jian Quan; 1 ♂, Tongmu, Mt. Wuyi, 13 Aug. 1998, SHI Quan Xiu; 2 ♂♂, Qingliu, Fujian, 18 July 1990, WANG Chen Hui; 1 ♂, Mt. Buyun, Meihua, 29 Sep. 1988, GUAN Bao Bin.

Holotype. Female, length of body 1.80 mm, of forewings 2.40 mm.

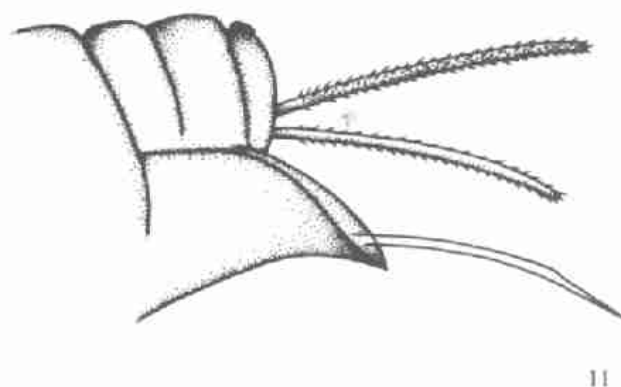
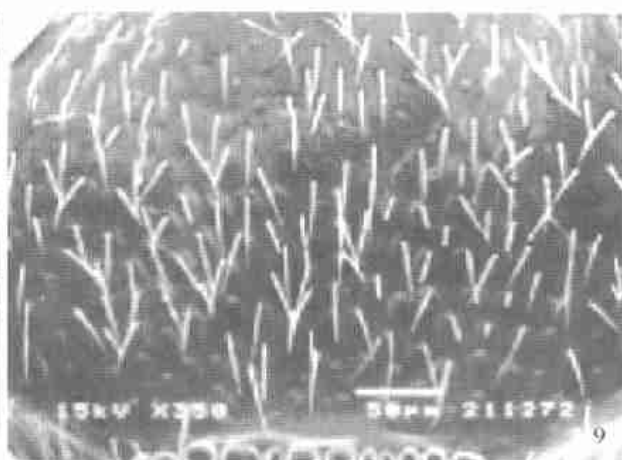
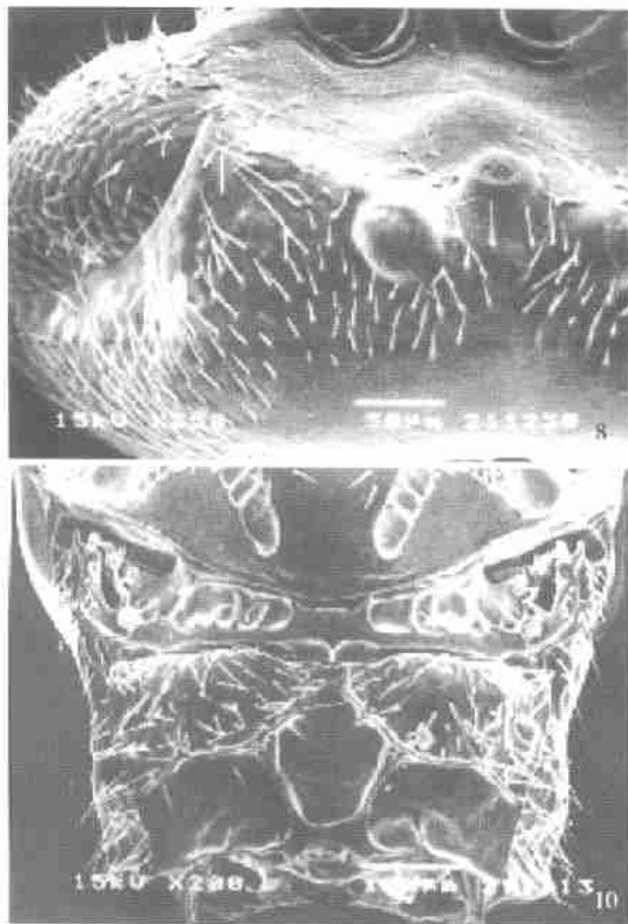
Head. Width/length about 4.5/1.9 in dorsal view. Frons depressed and smooth; temple and vertex weakly punctured; ocelli small and in a high triangular; imaginary tangent of posterior margin of median ocellus just located in front of lateral ocelli; OOL/OD= 0.9/0.4; face 1.5 × as wide as high,

shiny with sparse, big and shallow punctures. Antenna longer than body (10.0: 8.3), covered with short hair, with F12-F15 1.8-1.3 × as long as wide.

Mesosoma. Same as head in width, with its length: width: thickness= 6.5: 4.5: 4.4. Mesoscutum distinctly and closely punctured and closer along notauli; scutular sulcus straight and narrow, scutellum sparsely and weakly punctated. Propodeum shiny and smooth except a little weak punctures in base, with areola open in base, costulae and forked carinae distinct.

Wings. 1-R1 longer than pterostigma (4.2: 3.0), r emerging from middle of pterostigma and slightly longer than 2-SR (1.2: 1.1), jointing the latter in a distinct angle, m-cu slightly longer than r (1.3: 1.2), 1-SR very short, first discal cell as wide as high, 1-CU1 slightly longer than 2-CU1 (1.1: 1.0). Hind wing wide; margin of vannal lobe uniformly convex and hairy.

Legs. Basal outside of hind coxa with sparse, shallow and big rugose-punctate; outside of hind tibia closely spines with inner and outer spurs reaching 2.3/5 and 1/3 of basitarsus, respectively.



Figs. 8-11. *Dolichogenidea angularis* sp. nov., ♀, holotype. 8. Dorsal head. 9. Scutum. 10. Propodeum. 11. Ovipositor.

Metasoma. Slightly shorter than mesosoma (6.5–6.0). T1 parallel-sided and $1.9 \times$ as long as wide (apical width) with basal area smooth and slightly depressed, middle area slightly hunched, lateral area in apical half having longitudinal rugae; T2 transverse oblong and $5.0 \times$ as wide as long with rugose-punctate, lateral sulcus deep and apical margin convex backward; T3 longer than T2 (0.9:0.7), this tergite as well as the following tergites smooth and shiny with long, sparse hair. Both ovipositor sheath and tube are fine and about equal, slightly longer than hind tibia (8.0:7.0).

Color. Black. Antenna dark brown; 1-R1 yellow, C+ SC+ R bright yellow, pterostigma honey yellow; r, 2-SR and 2-M pale honey yellow, rest veins and wing as well as hair nearly colorless and hyaline. Fore and mid legs (except coxae, dorsal and basal femur of fore leg; trochanter, most dorsal and basal coxae, and apical half of tibia of mid leg reddish brown) dark yellow; hind leg (except basal half of tibia yellow, tarsus smoke brown) dark reddish brown. Metasoma with lateral area yellowish brown, apex and ovipositor sheath dark reddish or yellowish brown.

Variation. T1 slightly wide in mid; T2+ 3 4.5–5.1 \times as wide as long; ovipositor sheath slightly wider, ovipositor tube slightly longer; entire metasoma and hind femur dark coffee. Body length 1.7–2.0 mm.

Male. 1-R1, fore verge of pterostigma and C+ SC+ R blackish brown, pterostigma yellowish green and basal half hyaline, rest veins and wing colorless and hyaline; propodeum with costulae incomplete; T1, T2 rugose and weakly punctate, T2 with basal area narrow and lateral sulcus long; metasoma and legs darker color than female. Antenna nearly $2 \times$ as long as body; body length 1.4–1.7 mm.

Biology. Unknown.

Etymology. The specific name comes from the Latin word, *angularis* (angular), referring to r linking 2-SR in a obvious angle.

Remarks. This new species is similar to near *Dolichogenidea baoris* (Wilkinson), but is distinct from the latter by the following characters.

Dolichogenidea angularis sp. nov. *Dolichogenidea baoris* (Wilkinson)

R and 2-SR distinctly angled at R and 2-SR forming a weak, evenly curve at their junction

Pterostigma honey yellow

Pterostigma offwhite

Propodeum shine and smooth Propodeum rugose (except near and (except a little weak punctures in inside areda smooth and shiny) basal area)

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中国长颊茧蜂属二新种 (膜翅目, 茧蜂科, 小腹茧蜂亚科)

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摘 要 描述长颊茧蜂属 2 新种: 尖管长颊茧蜂 *Dolichogenidea acutituba* sp. nov. 和显角长颊茧蜂 *Dolichogenidea angularis* sp. nov.。文中对新种进行了详细的

描述, 附有新种鉴别特征图, 并与近似种做了比较。所有标本保存于福建农林大学益虫研究室。

关键词 茧蜂科, 小腹茧蜂亚科, 长颊茧蜂属, 新种, 中国.

中图分类号 Q969. 544. 8